E-21.1 Environmental scenario for generic industrial processing of articles with low abrasive techniques

Systematic title based on use descriptor	ERCs	Description		
	12a	Industrial processing of articles with abrasive techniques (low release)		
Sub scenarios		**ES1:** Default dilution	**ES2:** Dilution of 100	**ES3:** No water emissions

E-21.2 Controlling environmental exposure

Product characteristics	Borates are integrated into articles			
Amounts used	**ES1:** 30 T B/y	**ES2:** 300 T B/y	**ES3:** 1 700 T B/y	
Frequency and duration of use	20 days per year			
Environment factors not influenced by risk management	**ES1:** Dilution of 10	**ES2:** Dilution of 100	**ES3:** Not relevant	
Other given operational conditions affecting environmental exposure	None			
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	**Release factor to water after on-site treatment**	**ES1:** 25 000 g/T	**ES2:** 25 000 g/T	**ES3:** Not relevant
	Release factor to air after on-site treatment	**ES1:** 25 000 g/T	**ES2:** 25 000 g/T	**ES3:** 25 000 g/T
Organizational measures to prevent/limit release from site	Spillages of powder or granulated borates should be swept or vacuumed up immediately and placed in containers for disposal in order to prevent unintentional release to the environment.			
Conditions and measures related to municipal sewage treatment plant	Not relevant, boron is not removed from water in municipal STP. If sites discharge to a municipal STP the concentration of boron should not exceed 10 mg/L in the municipal STP.			
Conditions and measures related to external treatment of waste for disposal	Where appropriate material should be recovered and recycled through the process. Waste containing borates should be handled as hazardous waste.			

E-21.3. Exposure estimation

		PEC	PNECadd	RCR
ES1: Environmental Exposure Estimations	**Aquatic environment**	1 932 µg/L	2 020 µg/L	0.956
	Terrestrial environment	0.10 mg/kg dw	5.4 mg/kg dw	0.018
ES2: Environmental Exposure Estimations		**PEC**	**PNECadd**	**RCR**
	Aquatic environment	1 932 µg/L	2 020 µg/L	0.956
	Terrestrial environment	0.92 mg/kg dw	5.4 mg/kg dw	0.171
ES3: Environmental Exposure Estimations		**PEC**	**PNECadd**	**RCR**
	Aquatic environment	Not relevant	2 020 µg/L	Not relevant
	Terrestrial environment	5.21 mg/kg dw	5.4 mg/kg dw	0.964

E-21.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The DU works inside the boundaries set by the ES if either the proposed risk management measures or emissions (expressed in g/T) as described above are met or the DU can demonstrate on his own that his implemented risk management measures or emissions are adequate. Detailed guidance for evaluation of ES can be acquired via your supplier or from the ECHA website (guidance R16). For environmental exposure, a DU-scaling tool (free download: http://www.arche-consulting.be/Metal-CSA-toolbox/du-scaling-tool) is available.